

We Claim:

1. A method for filling and sealing containers comprising at least one fluid receiving opening, at least one flexible component, a relaxed state interior volume, and non-relaxed state interior volume, wherein said non-relaxed state volume is greater than or equal to said relaxed state volume, and wherein said at least one flexible component has at least one external and at least one internal surface, said method comprising:

releasably retaining said container;

positioning said retained container in a position to receive a fluid to be contained therein through said at least one fluid receiving opening;

expanding the relaxed state interior volume of said container to said non-relaxed state interior volume;

dispensing a fluid into said non-relaxed interior volume of said container;

subjecting both the exterior of said at least one flexible component and the interior volume of said fluid containing container to an environment having a predetermined pressure range wherein said pressure range is greater than or equal to the vapor pressure of said fluid within said container;

sealing said at least one fluid receiving opening while said interior volume and said flexible component exterior are within said predetermined pressure range;

increasing the pressure of said environment to ambient atmospheric pressure; and

releasing said container from said releasably retained position.

2. The method of claim 1 wherein the steps are performed under aseptic conditions.

3. The method of claim 1 wherein the steps are performed in the order recited.

4. The method of claim 1 wherein one or more steps are performed essentially simultaneously.

5. The method of claim 1 wherein the expansion of the relaxed state interior volume of said container to said non-relaxed state interior volume is performed by flexing said at least one flexible component.

6. The method of claim 1 wherein the expansion of the relaxed state interior volume of said container to said non-relaxed state interior volume is performed by injecting a gas into said container interior volume.

7. The method of claim 6 wherein said gas is an inert gas.
8. The method of claim 1 wherein the expansion of the relaxed state interior volume of said container to said non-relaxed state interior volume is performed by the application of vacuum or reduced pressure on said flexible component external surface.
9. The method of claim 1 wherein the expansion of the relaxed state interior volume of said container to said non-relaxed state interior volume is performed by physical manipulation of said flexible component.
10. The method of claim 10 wherein said physical manipulation is performed mechanically.
11. The method of claim 1 wherein the dispensing and sealing steps are performed at separate physical locations.
12. The method of claim 1 further comprising inserting a fluid dispensing nozzle into said at least one fluid receiving opening prior to dispensing said fluid.
13. The method of claim 1 further comprising the manipulation of the fluid meniscus formed within said interior volume to increase or reduce the headspace to a predetermined range by a physical movement of said flexible component.
14. The method of claim 13 wherein the physical movement of said at least one flexible component is performed by expanding or contracting said at least one flexible component.
15. The method of claim 1 wherein said container further comprises a third interior volume when said container is filled with fluid and sealed.
16. The method of claim 15 wherein said non-relaxed state interior volume is greater than said filled and sealed volume of said container.
17. The method of claim 1 wherein said at least one component internal surface is hydrophilic.
18. The method of claim 1 wherein said at least one component internal surface is hydrophobic.
19. The method of claim 1 wherein said at least one component internal surface is wettable.
20. The method of claim 1 wherein said container comprises more than one flexible component.
21. The method of claim 1 wherein said container at least one flexible component comprises less than two-thirds of the total structural components of said container.

22. The method of claim 1 wherein said container at least one flexible component comprises more than two-thirds of the total structural components of said container
23. The method of claim 1 wherein said at least one fluid receiving opening further comprises an inverted hollow conical structure positioned therein such that the narrowest portion of said hollow conical structure opens to the interior volume of said container.
24. The method of claim 1 wherein said hollow conical structure is non-releasably positioned within said fluid receiving opening.
25. The method of claim 1 wherein said hollow conical structure is releasably positioned within said fluid receiving opening prior to the dispensing of said fluid.
26. The method of claim 23 wherein said at least one fluid receiving opening and said hollow conical structure are contiguous.
27. A containment device for a pharmaceutical liquid comprising at least one fluid receiving opening; at least one flexible component; at least one rigid component; a relaxed state interior volume; and a non-relaxed state interior volume, wherein said non-relaxed state volume is greater than or equal to said relaxed state volume.